ABSTRACT

A system and method for performing a virtual endoscopy is provided. The method comprises the steps of: calculating a distance map using three-dimensional (3D) data of a lumen; calculating a multiplanar reconstruction (MPR) of the lumen, wherein the MPR is calculated orthogonal to the lumen at an endoscope position; performing a first region growing on the MPR of the lumen at the endoscope position, wherein data associated with the first region is marked; calculating a minimum distance and a maximum distance from the marked data of the first region growing using corresponding distances from the distance map; performing a second region growing on the MPR of the lumen for data outside the first region growing, wherein data associated with the second region is marked; and performing a 3D rendering of the marked data associated with the first region growing and the second region growing.